



Joint Office of  
**Energy and  
Transportation**

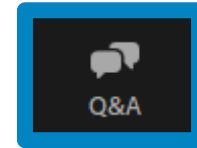
# State of the Practice in DC Charging Station Site Evaluation and Deployment Processes

3/23/2023

[driveelectric.gov](https://driveelectric.gov)

# Zoom Tips and Housekeeping

- Controls are located at the bottom of your screen. If they aren't appearing, move your cursor to the bottom edge.
- Submit questions using the “Q&A” window



# Disclaimer

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If you speak during the webinar or use video, you are presumed to consent to recording and use of your voice or image.

# Agenda

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**Introduction from the Joint Office**

**Colorado Energy Office Presentation**

**Pennsylvania DOT Presentation**

**Facilitated Discussion**



# Panelists



**Christian Williss**  
*Colorado Energy  
Office*



**Natasha Fackler**  
*Pennsylvania DOT*



**Colton Brown**  
*Pennsylvania DOT*



# Colorado Energy Office

# State of the Practice in DC Charging Station Site Evaluation and Deployment Processes

March 23, 2023

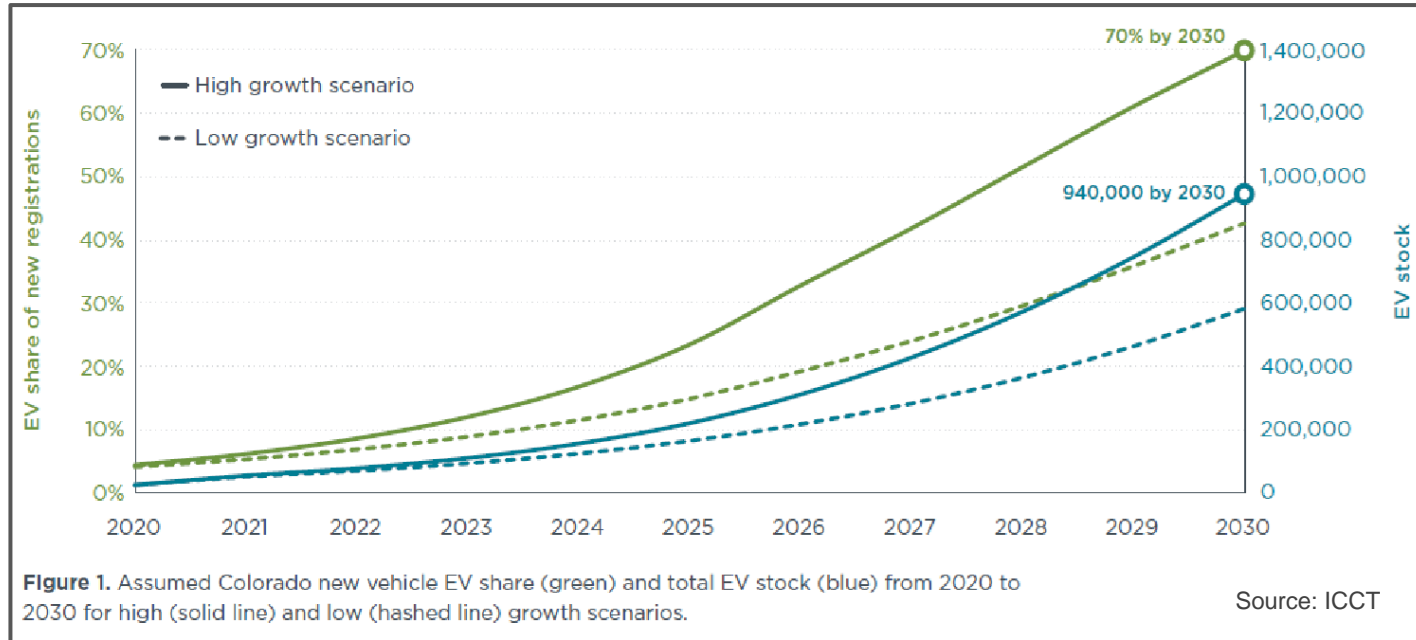


**COLORADO**  
Energy Office

# Colorado's Electric Vehicle Goal

*Increase adoption of EVs in the light-duty sector to approximately 940,000 vehicles by 2030*

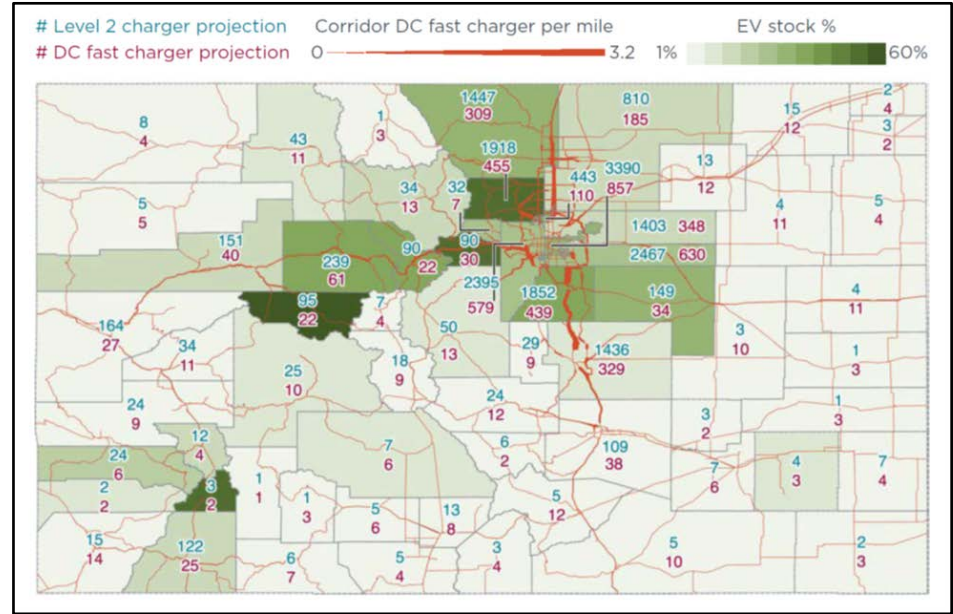
- 2018 Colorado Electric Vehicle Plan





# Colorado's Charging Infrastructure Need

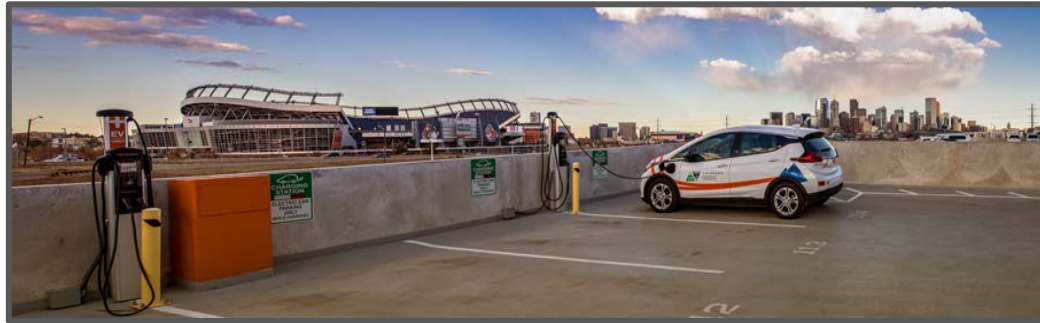
EV growth scenario	Year	DC fast (non-corridor)	DC fast corridor
High growth	2025	1,287	412
	2030	3,771	1,070
Low growth	2025	1,030	345
	2030	2,621	760



Source: ICCT

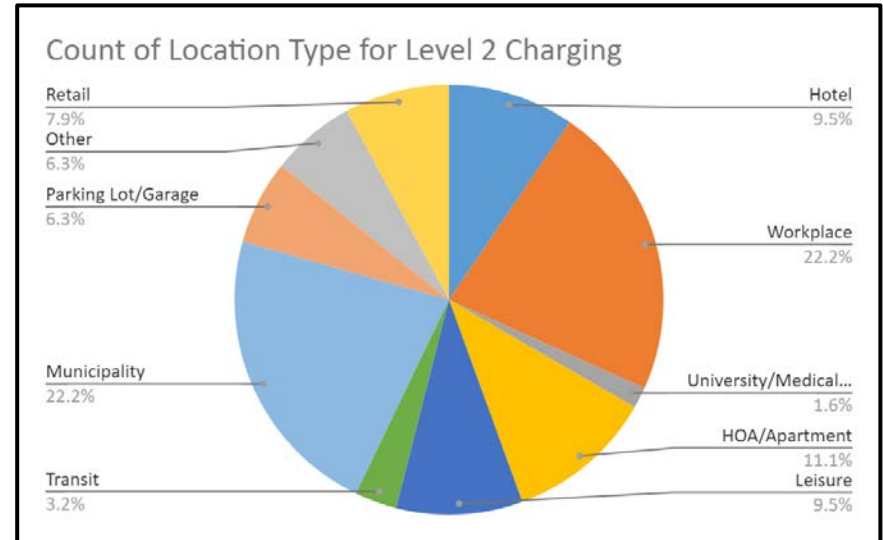
# Colorado's Charging Infrastructure Programs

- Charge Ahead Colorado: Community-based Level 2 and DC Fast-Charging (DCFC)
- DCFC Corridors: High-speed charging along Colorado's major transportation corridors
- DCFC Plazas: High-speed charging in communities and along Colorado's transportation corridors
- Fleet ZERO: Depot and public charging for light and medium/heavy fleets (Spring 2023)



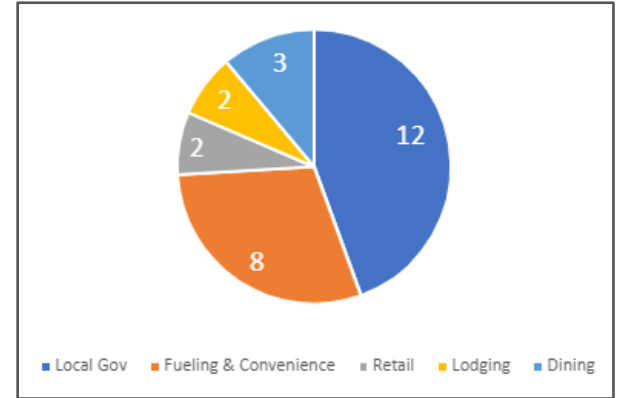
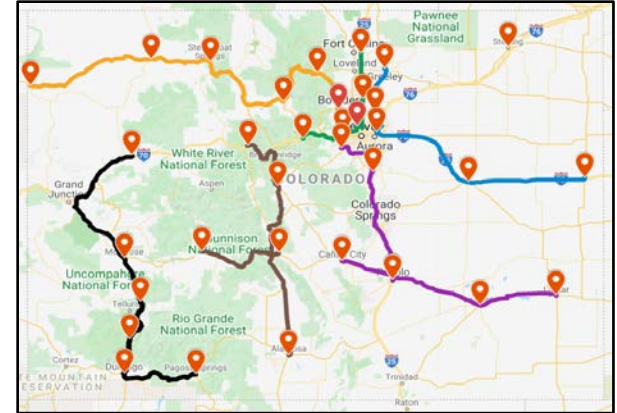
# Charge Ahead Colorado

- Grants for community-based Level 2 and DC fast-charging stations across the state
- Competitive grant process includes 3 funding rounds per year + rolling grants for eligible projects
- Incentives based on percentage of project cost up to a cap + enhanced incentives for eligible projects
- Primarily low cost, small scale, and short duration projects
- Over 2,000 stations awarded since 2013



# DCFC Corridors Program

- Limited program to build out DCFC at 34 locations along six corridors – full corridor proposals required
- Site specs include close proximity to highway interchange and amenities + 24/7 access
- Tech specs include 2 or 4 ports per site, 50/150 kW charging, and modular design
- Future-proofing specs included site design, electrical capacity, and real estate
- Grants cover 80-90% of project cost to a cap
- 30 locations open with full completion by end of the calendar year



# DCFC Plazas Program

- Provide high speed charging for drivers without access to home or workplace charging and for high-mileage fleets, and along transportation corridors
- Priority locations include in and around downtown, near high-density housing, commercial developments, and transit hubs, and in corridor gaps
- Maintain technical requirements from the Corridors program while streamlining application process
- Incorporate lessons learned from corridors program, previous plazas funding round + ongoing iteration
- Incorporates new funding (NEVI + state funding) and updated requirements (Buy America, workforce, data collection)



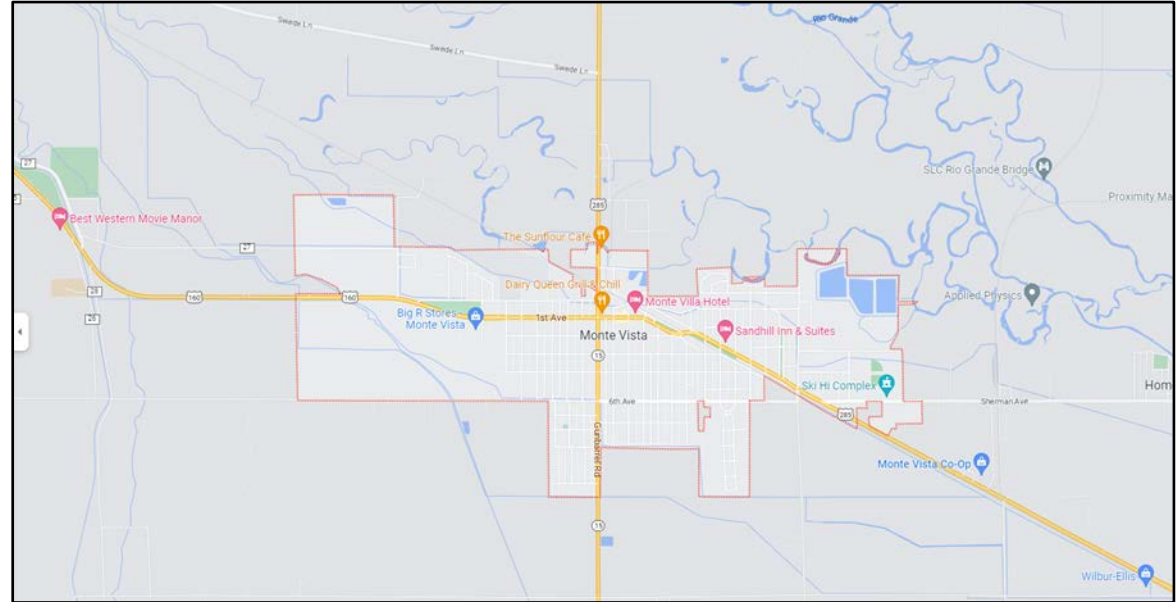
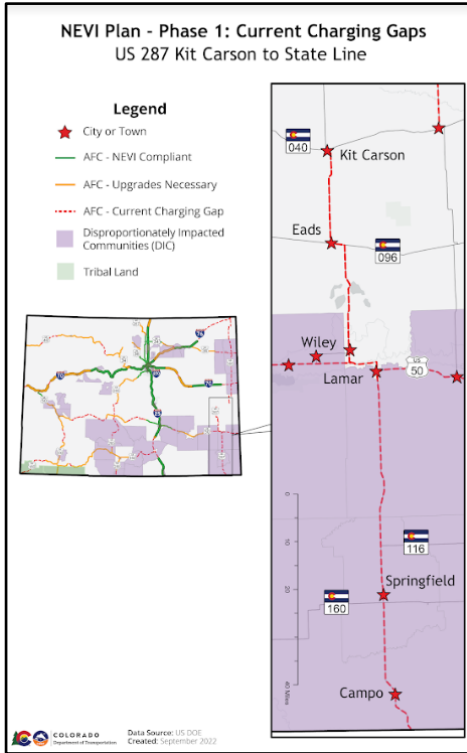
# Applying Lessons Learned

## Siting and Deployment

- Create incentives and criteria that help achieve policy and program goals, support project viability
- Allow for a variety of business models including multi-party arrangements
- Recognize that limited due diligence can be completed by applicants prior to award
- Strive for balance between charging gaps, willing site hosts, site characteristics, and project cost



# Applying Lessons Learned



# Applying Lessons Learned

## General

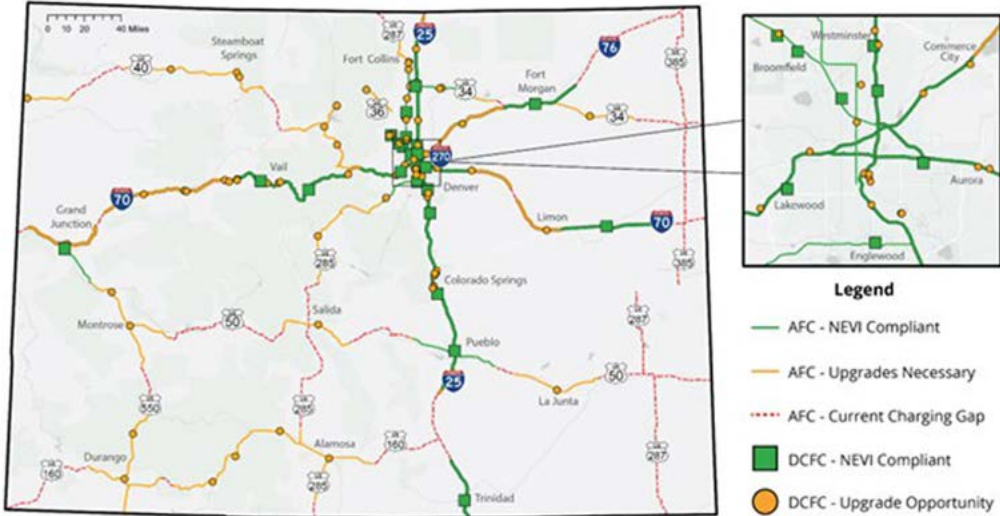
- Build flexibility, continuous improvement into program design, administration, and awards
- Use program requirements and reimbursement strategies to increase station reliability and uptime
- Prepare for long project implementation timelines
- Let market determine need for exceptions





# Planning for NEVI

**Publicly Accessible Electric Vehicle Fast-Charging Network**  
Within 1 mile of Alternative Fuel Corridor (AFC) - Gap Analysis



COLORADO Department of Transportation Data Source: US DOE Created: July 2022

- Charging gaps along Colorado's federally designated Alternative Fuel Corridors, prioritizing those locations serving disproportionately-impacted communities.
- Expansion of existing stations along Colorado's federally designated Alternative Fuel Corridors.
- Additional charging in areas where infrastructure exists but is insufficient to meet market demand.
- Charging infrastructure needed to support the electrification of the medium and heavy duty vehicle market.

# Project Incentives

- Ensuring programs are responsive to the market while also directing investment where it's most needed
- Increase access to those often left out of competitive grant programs – new incentives, priority scoring, targeted outreach
- Tiered incentive levels stimulate statewide investment without overinvesting
- Incentives for battery storage open up rural locations that lack access to 3-phase power and multi-site awards expedite buildout

DCFC Plazas Incentives				
Location	DCFC Output	#DCFC	Incentive Per Charger	Funding Percentage Up To
Seven County Denver Metro Area	150kW+	4+	\$90,000	50%
Front Range Urban	150kW+	4+	\$115,000	65%
Rural	150kW+	4+	\$140,000	80%
*DI/DAC Enhanced Incentive	\$5,000 per charger			
*Enhanced Incentive for Battery Integrated or Standalone Storage	\$25,000 per site for battery integrated \$45,000 per site for standalone storage			
*Enhanced Incentive for 3+ Awarded Locations	\$25,000 per site along a designated corridor			



# Proposal Evaluation

Evaluation Criteria	
Category	Points
Project Abstract and Project Narrative	5
Plaza Location(s) and Access to Amenities	20
Plaza Design, Facilities Requirements, Minimum Station Specifications, Equipment Reliability	20
Project Communication and Strategic Partnerships	10
Project Cost, Match and Proposed Pricing Structure	15
Organization, Staff Experience, Qualifications (Same score will apply to all proposed Plaza locations in a single application)	10
Sustainability, Equity	15
Project Schedule	5
<b>Total</b>	<b>100</b>

- Plaza Location(s) and Access to Amenities
  - Charging gaps, disproportionately impacted communities/J40, safety, economic development
  - Suitability of location for DCFC + proximity to other stations
- Plaza Design, Facilities Requirements, Minimum Station Specs
  - Accessibility
- Sustainability, Equity
  - Community location, community engagement



# Applicant Resources

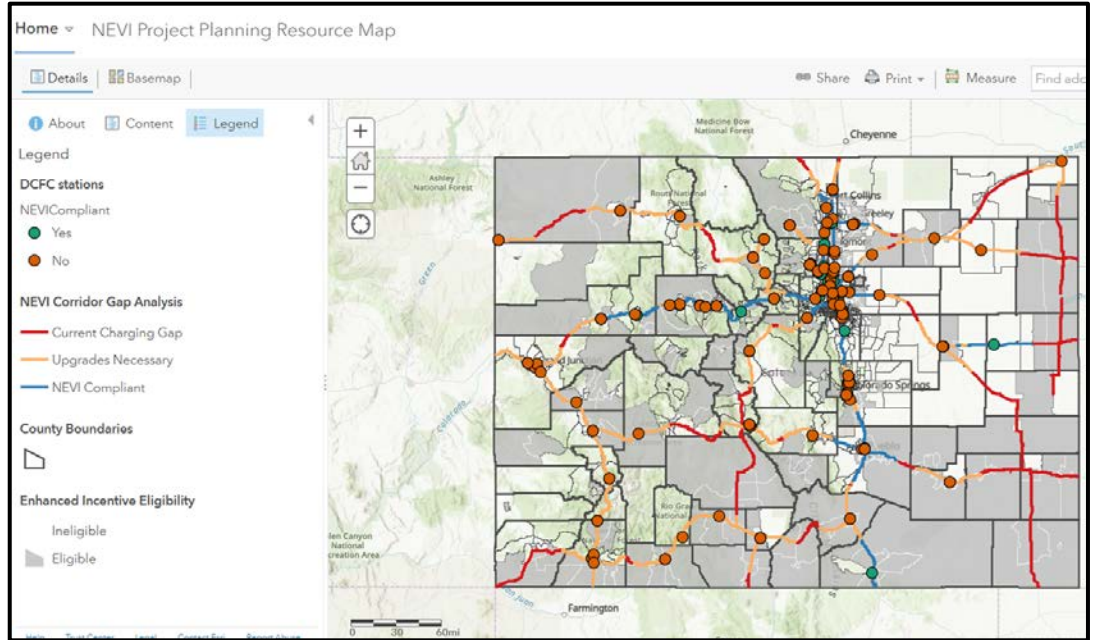


## DCFC Plazas Program Partnering List

Established by the Infrastructure Investment and Jobs Act (IIJA), the National Electric Vehicle Infrastructure (NEVI) formula program funding will provide \$5 billion over five years for states to deploy high speed DC fast electric vehicle (EV) chargers along highway corridors. This buildout of EV chargers is critical for increasing the number of EVs on the road in Colorado and for ensuring that all Americans benefit from electrified transportation.

Colorado is expected to receive \$57 million over the next five years to build out the state's EV charging network. Per federal requirements, charging stations built with NEVI funding must be located within one mile of a federally designated Alternative Fuel Corridor (AFC) and at a maximum of every 50 miles along the corridor. Colorado has 13 highways designated as EV corridors under the program: I-25, I-70, I-76, I-270, US 34, US 36, US 40, US 50, US 160, US 285, US 287, US 385, and US 550. CDOT may propose additional routes for designation over the next five years.

The Colorado Department of Transportation (CDOT) and the Colorado Energy Office (CEO) will be working with partners and stakeholders to implement the state's NEVI Infrastructure Deployment Plan. CDOT encourages applicants to prioritize installing charging infrastructure in charging gaps close to amenities, and particularly in disproportionately impacted (DI) communities, where feasible. As such, this partnering list is created for potential applicants, host communities, and other interested stakeholders to indicate their interest in installing a charger(s) in their communities and for charging providers to explore potential partnerships. If you would like to participate, please fill out this form.



# Grantee Reimbursement

- CEO will retain 20% at each milestone.
- The State shall pay the milestone retainage upon project completion.
- CEO will retain 5% of the total grant award, distributing 1% annually based on grantee's timely completion of reporting, required uptime, and continuous operation.

Payment Milestones	
Milestone	Percentage
Delivery and Payment for Charging Stations	20%
Design, Engineering, Permitting and Utility Interconnection Approval	20%
Final commissioning and Activation	55%
Retainage for Ongoing Operations and Reporting	5%



# Solicitation Process

- Formal communication to grant program and NEVI stakeholders
- Link to program webpage, CDOT resources
- Link to application guide, application (in Word)
- Formal Q & A period
- 60 day open period



The Colorado Energy Office (CEO) is pleased to announce the opening of the Spring 2023 funding round for the Direct Current Fast-Charging (DCFC) Plazas program. This includes updated DCFC Plazas program guidance that reflects new sources of funding from both the National Electric Vehicle Infrastructure (NEVI) program and the Community Access Enterprise (CAE).

**Applications must be submitted ONLINE by May 5th, 2023 at 5:00 PM MT.**

The [DCFC Plazas webpage](#) is up-to-date with the new incentive structure and program resources, including the Application Guide and Application.

Additional resources are available via the [Colorado Department of Transportation's website](#), including Colorado's NEVI Plan and the DCFC Plazas Program FAQ.

Please contact [ceo\\_transportation@state.co.us](mailto:ceo_transportation@state.co.us) with any questions.

## KEY DATES

Action	Date
Application period opens	March 8
Online application portal opens	March 13
Question submittal deadline	March 24
Q & A responses posted	March 31
Application deadline	May 5, 5:00 PM MT



[energyoffice.colorado.gov](http://energyoffice.colorado.gov)  
@COEnergyOffice



**COLORADO**  
Energy Office



# **PENNDOT NEVI DESIGN AND LESSONS LEARNED**

COLTON BROWN, PENNDOT  
ALTERNATIVE FUEL INFRASTRUCTURE COORDINATOR

NATASHA FACKLER, PENNDOT  
INFRASTRUCTURE IMPLEMENTATION COORDINATOR



# PA NEVI PROGRAM OVERVIEW

# OVERVIEW OF PA'S NEVI FORMULA PROGRAM



- Provides PA \$171.5 million over next 5 years for electric vehicle (EV) infrastructure
  - Federal Fiscal Year 2022 - \$25.4 million
  - Federal Fiscal Years 2023-2026 - \$36.5 million annually
- PennDOT submitted state plan on July 21, 2022.
- PennDOT NEVI plan approved on Sept 14, 2022.
- Pre-announcement of Funding Opportunity – Oct. 12, 2022
  - Informational Webinar for interested proposers – Nov. 1, 2022
- Notice of Funding Opportunity Released – January 6, 2023
  - Updated – March 13, 2023

# ALTERNATIVE FUEL CORRIDORS



- PennDOT has nominated corridors over 6 rounds - includes interstates and portions of US 30, US 15, Route 1, and Route 422 - over 1,800 miles of roadway
- NEVI funding must be applied to AFCs until a **“Build-Out”** certification by FHWA

# PA NEVI PROGRAM DESIGN

# NOTICE OF FUNDING OPPORTUNITY

Eligibility

Program Requirements

Application Procedures

Application Evaluation

Post-Selection Activities

Sample Agreement



**Pennsylvania State  
National Electrical Vehicle Infrastructure (NEVI)  
Formula Program**

**NOTICE OF FUNDING OPPORTUNITY (NOFO)**

**Commonwealth of Pennsylvania  
Department of Transportation**

*Tom Wolf, Governor  
Yassmin Gramian, P.E., Secretary of Transportation*

**Round 1 FFY 2022 – FFY 2023  
January 6, 2023**



# PRIORITY LOCATIONS

## PRIORITY I:

Selected via gap analysis to most likely meet AFC build-out

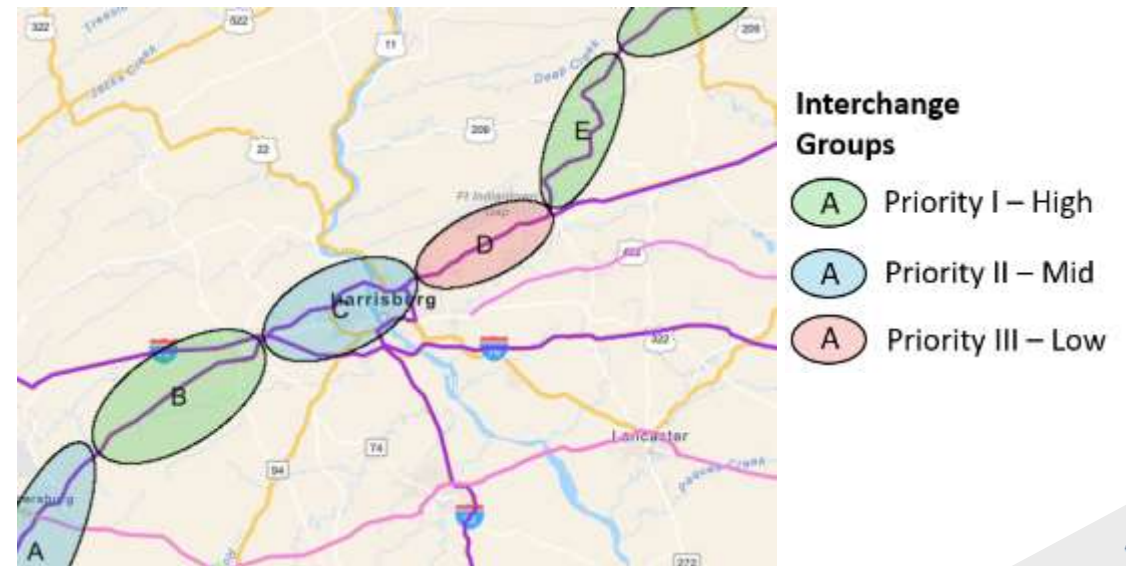
## PRIORITY II:

Interchanges in locations closer to existing sites/or likely to be redundant.

## PRIORITY III:

Interchanges that already has NEVI-qualifying EV charging site.


- Round 1 will focus on Pennsylvania's primary and auxiliary interstate AFC network and includes 11 primary interstates and four (4) auxiliary interstates
- [PennDOT's interchange group map](#) shows the ~80 gaps labeled as Priority I, II, or III
- At least one site at an interchange within each Priority I group will be selected first, followed by one site within each of the Priority II groups of interchanges.



# UTILITY COORDINATION

- ❑ Identify the utility servicing the site
  - ❑ Coordinate with the utilities
    - ✓ Utilize Utility Form in NOFO
    - ✓ Identify the feasibility of providing (NEVI) required power at the site
    - ✓ Discuss cost and schedule implications
- \* **Note:** Applicant will need to provide the utility contact information and cost/timeline for utility related items as part of the application

PennDOT NEVI Formula Program: Round 1 Grant NOFO



### Appendix VIII – Utility Form

**SITE APPLICANT INFORMATION** (Site Applicant to complete.)

Name of Company/Customer: \_\_\_\_\_  
Facility Owner's Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Contact Name: \_\_\_\_\_  
Contact Phone: \_\_\_\_\_ Contact Email: \_\_\_\_\_

**SITE INFORMATION – ELECTRICAL DISTRIBUTION SERVICE NEEDS** (Site Applicant to complete.)


Address of Site: \_\_\_\_\_  
Latitude/Longitude: \_\_\_\_\_  
Number of chargers anticipated: \_\_\_\_\_ Total service power level (kW): \_\_\_\_\_

Type of Service:  New Service (No existing lines)  Existing Service Lines  Upgrade of Existing Service

Account #: \_\_\_\_\_

Provide aerial view of site with transformer location and termination point. Show nearest 3-phase source (if known):

[Insert aerial view here with proposed location of chargers]

 55



# NOFO SELECTION PROCESS

<b>March 13, 2023</b>	
<b>January-Mid March 2023</b>	Submit utility form to utility provider so the utility can complete and return the form to the applicant in time for the application period end date
<b>March 24, 2023</b>	Any technical questions regarding the NOFO must be submitted to RA-PDEVCorridors@pa.gov. Frequently asked questions and answers will be posted publicly online to the PennDOT NEVI site.
<b>March 27, 2023</b>	Application submission period begins (ability to enter in eGrants system)
<b>May 5, 2023</b>	PA NEVI grant program application submission period ends at 5 PM EDT
<b>May – June 2023</b>	PennDOT application review
<b>July 2023</b>	Preliminary award approval and denial notifications
<b>July – September 2023</b>	PennDOT NEPA Process
<b>September 2023</b>	Final award approval and denial notifications
<b>October – November 2023</b>	Grant agreement execution; Notice to Proceed





# PROJECT SCORING ELEMENTS

Scoring Category	Points
1. Qualifications and Project Approach	12
2. Candidate Site Information	40
3. Site Readiness	8
4. Future Proofing	4
5. Sustainability, Equity, Resilience, and Economic Development	12
6. Safety and Training	4
7. Project Costs	20
<b>Total</b>	<b>100</b>



# SCORING RUBRIC TRANSPARENCY

## 5. Sustainability, Equity, Resilience, and Economic Development [12pts]

ID	Element	Description	Score Breakdown Points	Max Points
5.1	Renewable Energy Usage	Renewable energy sources used for charging energy	0pts: No renewable energy used 0.5pts: 50% renewable energy used 1pts: 100% renewable energy used	1
5.2	Innovative Technologies and Battery Storage	Innovative technologies and/or approaches to site design, charging, and power storage	0pts: No / minimal innovation used in project 0.5-2pts: Based on amount and level of innovations used across project areas	2
5.3	Use of Diverse Businesses	Involvement of small, women-owned, minority-owned, veteran-owned, and/or other diverse businesses and/or workforce	0pts: No or minimal diverse businesses involved in project delivery 1pt: Moderate number of diverse businesses / equivalent workforce used in project delivery 2pts: Substantial number of diverse businesses / equivalent workforce involved in project delivery	2

5.4	Use of Local Businesses	Involvement of local businesses and/or workforce in project	0pts: No or minimal involvement of local businesses / equivalent workforce in project 1pt: Moderate involvement of local businesses / equivalent workforce in project 2pts: Substantial involvement of local businesses / equivalent workforce in project	2
5.5	Charging Accessibility, Equity Principles, and Justice40 Initiatives	<ul style="list-style-type: none"> <li>• Users with Disabilities</li> <li>• Payment Options</li> <li>• Multilingual Access</li> <li>• Additional Equity Principles</li> </ul>	0pts: No / minimal accessible design for charging and/or no equity principles followed 1-5pts: Based on ability to provide for accessible charging and follow PennDOT's EV equity principles and the Justice40 Initiative	5



# PA NEVI PROGRAM LESSONS LEARNED

# IT TAKES A VILLAGE

Need to coordinate with a lot of stakeholders –

- FHWA Regional Office
- USDOT
- Potential Applicants
- Utilities
- Contracting
- Finance
- Legal
- Programs
- MPOs/RPOs
- IT
- Agency Regional Offices
- Sibling Agencies (Revenue, DEP, L&I, Ag)
- Other Stakeholders



Allot time for feedback/input and pivots



# GENERAL LESSONS LEARNED

- Starting a program from scratch is challenging. Lot of items to decide. Plan for adequate time to develop.
- Make sure you know who needs to be part of the process.
- Determine the timing for announcement.
- Reach out to potential applicants for input.
- There are lot of EV charging business models. Need to consider them all.
- Seeking consultant help? Decide on detailed roles and responsibilities.
- Allow flexibility to deal with unknowns.
- Leverage other program templates and modify to specific state needs.
- Determine the level of involvement during installation and O&M process.



# STATE VS. FEDERAL PROCUREMENT

## Program Structure

- State vs. Federal Procurement Regulations/Rules
- Procurement vs. Grant and State Requirements
- Decide on program structure – RFP vs Grant vs Others
- Decide on number of rounds/sites for each rounds
- Decide whether to cap amount applicants can receive
- Identify availability of funds for installation (allocate for internal/consultants)



# DEVELOPMENT LESSONS LEARNED

## Program Requirements

- Identify requirements vs refer to guidelines
- Determine need for additional state requirements
- Coordinate with Utilities - Utility forms
- What costs do you as a state want to cover?

## Application Procedures

- Plan on how do you receive and evaluate applications. Leverage existing options.
- Have adequate open application period
- Plan for FAQ's (through website)/addendum
- Consider webinar for information dissemination
- Address Buy America compliance/process

## Application Evaluation

- Be transparent with scoring. Develop scoring rubrics
- Think about AFC priorities vs equity challenges
- Score individual sites to help smaller organizations participate in program
- Group sites, if necessary. Provide eligible sites in map format.

## Post-Selection Activities

- Consider internal resources for environmental clearance
- Plan on platform for receiving information from selected applicants
- Reporting and labor compliance

## Terms and Conditions

- Decide what provisions to include
- Provide draft sample agreement
- Decide on standard state agreement vs Federal forms
- Deal with Right to Know law
- Oversee/enforce Uptime



# CONTACT INFORMATION

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Natasha Fackler, Infrastructure Implementation Coordinator  
Pennsylvania Department of Transportation  
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# Questions and Answers

# Existing Tools for Site Evaluation

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- National Renewable Energy Lab EVI-X Modeling Tools  
<https://www.nrel.gov/transportation/evi-x.html>
- Idaho National Laboratory's Caldera (<https://cet.inl.gov/caldera>)
- M.J. Bradley's Infrastructure Location Identification Toolkit  
<https://www.sustainability.com/thinking/regional-ev-charging-infrastructure-location-identification/>
- Minnesota Department of Transportation's Installation Requirements for Electric Vehicle Charging Stations  
<https://www.pca.state.mn.us/sites/default/files/p-gen4-20.pdf>



# Upcoming Webinar Topics

- March 28<sup>th</sup>** Contracting and Procurement Considerations
- April 4<sup>th</sup>** Community Engagement
- April 11<sup>th</sup>** Community Charging Models
- April 18<sup>th</sup>** Cybersecurity

[driveelectric.gov/webinars](https://driveelectric.gov/webinars)

*\* Some dates may be subject to change*

The screenshot shows the top navigation bar of the driveelectric.gov website. The logo for the Joint Office of Energy and Transportation is on the left. The navigation menu includes 'About', 'Technical Assistance', 'Data & Tools', and 'Contact'. Below the navigation bar, the 'Webinars' section is highlighted. The text reads: 'The Joint Office of Energy and Transportation offers webinars to help states and key stakeholders build capacity for electric vehicles and plan for charging infrastructure.'

# Thank you!

*Today's Presentation:*  
State of the Practice in DC Charging  
Station Site Evaluation

Didn't get your question answered?  
Want to learn more about the state of the practice on site evaluation?  
Ask the Joint Office: [driveelectric.gov/contact](https://driveelectric.gov/contact)



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